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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,480	10/22/2002	Eric J. Hansen	71189-1444	5668
20915	7590	05/03/2006	EXAMINER	
MCGARRY BAIR PC 171 MONROE AVENUE, N.W. SUITE 600 GRAND RAPIDS, MI 49503			CARRILLO, BIBI SHARIDAN	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/065,480

Applicant(s)

HANSEN ET AL.

Examiner

Sharidan Carrillo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 64, 65, 67 and 158 is/are pending in the application.
- 4a) Of the above claim(s) 30-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 64-65 and 67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2-8 and 11-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is indefinite because it is unclear how the chemicals can undergo an exothermic

chemical reaction prior to heating since it is the exothermic reaction which results in the solution being heated. Specifically, the heating and the exothermic chemical reaction occur simultaneously. If the exothermic reaction results in the heating of the solution, then claim 2 is rendered indefinite because it is unclear how the compounds can undergo an exothermic reaction prior to heating since the exothermic reaction results in heating of the solution. Additionally, if the solution is heated up with an exothermic reaction, as recited in claim 1, claim 2 is indefinite because it is unclear how then exothermic reaction occurs prior to heating since claim 1 suggests that heating and an exothermic reaction occurs simultaneously. Claims 3-8 are indefinite because of its dependency. Claims 11-12 and 17-18 are indefinite because of the term "mild acid". The term "mild" is a relative term and it is unclear what one would consider as "mild acid". Does "mild" refer to concentration, pH, or cleaning effectiveness of the acid. The

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examiner suggests amending the claim to recite the term "acid" instead of "mild acid".

Applicant argues that the term "mild acid" is well known in the art as evidenced by prior art patents which recite "weak acid". Applicant's arguments are not persuasive because applicant is not claiming a "weak acid" and each case is examined based on its own merits. Claim 8 is indefinite because it is unclear whether applicant intends a phase change from a solid phase to another solid phase or from a solid phase to another phase which is not solid. Claims 13-16 are indefinite because of its dependency.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3, 8-9, 24-25, and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieroni et al. (US2002/0112741).

Pieroni et al. teach a hand-held scrubbing device for cleaning a surface. In the Embodiment of Fig. 3, Pieroni teaches a heating element 62 which can be a non-electrical heating element, such as a chemical heating element impregnated in the scrubbing surface which employs a chemical which creates heat through an exothermic reaction when contacted with water.

Pieroni fails to teach recovering soiled cleaning solution from the surface. It would have been obvious to a person of ordinary skill in the art to remove the soiled cleaning solution from the surface for purposes of removing contaminants thereon. In reference to claim 2, refer to paragraph 45. In reference to claim 3, one would reasonably expect a phase change to occur since element 62 of Pieroni must be a solid which reacts with the water in order to generate an exothermic reaction. In view of the indefiniteness of claim 8, the limitations are met by Pieroni. In reference to claim 9,

Pieroni teaches contacting the chemical 62 with water to produce an exothermic reaction. In reference to claims 24-25 and 28-29, Pieroni teaches transferring the heat directly to the cleaning solution as a result of the chemical reacting with water and transferring the heat indirectly to the cleaning solution as result of heating the scrubbing element which contacts the cleaning solution.

7. Claims 10-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieroni et al. (US2002/0112741) in view of Pace et al. (US2002/0040503).

Pieroni et al. teach the invention substantially as claimed with the exception of an exothermic reaction resulting from acid/base reactions. Pace teaches a process for cleaning a substrate by contacting the substrate with first and second compositions, wherein upon contact of said two compositions, heat is generated and the cleaning performance is improved. In paragraphs 57-59, Pace teaches heat generation by reacting an acid with a base. The reagents include organic and inorganic acids and bases. It would have been obvious to a person of ordinary skill in the art to have modified the chemical of Pieroni et al. to include acid/base reactions, as taught by Pace et al., for purposes of generating an exothermic reaction to form a heated fluid, thereby enhancing the cleaning performance of the substrate.

In reference to claims 11, and 17-20, the limitations are met since Pace et al. teach the same acids and bases as the claimed invention. In reference to claims 21-23, refer to paragraphs 58-59 of Pace.

In reference to claims 12-13, Pieroni in view of Pace fails to teach stearic acid. However, it would have been within the level of the skilled artisan to modify the modified

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method of Pieroni to include the stearic acid, since stearic acid is an organic acid and Pace teaches using organic acids to form an exothermic reaction. In reference to claims 14-16, Pieroni in view of Pace fails to teach triethanolamine. However, it would have been within the level of the skilled artisan to modify the modified method of Pieroni to include triethanolamine, since triethanolamine is an organic base and Pace teaches using organic bases such as alkylamines to form an exothermic reaction.

8. Claims 64-65, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieroni et al. (US2002/0112741) in view of Sham (5341541).

Pieroni et al. teaches heating and applying the solution to the surface to be cleaned. Pieroni fails to teach recovery of the cleaning solution using suction. Sham teaches a portable cleaning apparatus for heating the cleaning solution prior to the step of dispensing the cleaning solution unto the surface to be cleaned. Sham further teaches a suction nozzle for recovery of the fluid into the recovery tank (Abstract). The suction nozzle dries the surface by removing the applied solution, as well as the dirt and debris from the surface being cleaned and carries it to the recovery chamber (col. 4, lines 45-50). It would have been obvious to a person of ordinary skill in the art to modify the method of Pieroni to include recovering the cleaning solution by suction, as taught by Sham, for purposes of drying the surface by removing the cleaning solution, dirt and debris from the surface being cleaned.

***Allowable Subject Matter***

9. Claims 4-7 and 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach the limitations as recited in claims 4-7 and 26-27.

***Response to Arguments***

11. Applicant argues that the prior art is nonenabling and therefore the reference of Pieroni is not prior art under 35 U.S.C. 103. Applicant's arguments are unpersuasive for the following reasons. When the reference relied on expressly anticipates or makes obvious all the elements of the claimed invention, the reference is presumed to be operable. Once such a reference is found, the burden is on applicant to provide facts rebutting the presumption of operability. In re Sasse, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). See MPEP 716.07. Pieroni teaches a porous scrubbing surface with an open-cell structure to enhance cleaning and passage of the cleaning composition through the scrubbing surface. Paragraph 29 teaches various types of cleaning compositions which are impregnated in the scrubbing surface and released therefrom for use to clean the item. Paragraph 29 also teaches scrubbing by heat activation. Therefore, the disclosure of Pieroni is not non-enabling, as suggested by applicant. The burden is shifted on applicant to provide facts rebutting the presumption of operability.



Additionally, Pieroni is not required to give examples of specific chemicals which create heat through an exothermic reaction when contacted with water in order to prove operability. Applicant's arguments are not commensurate in scope since claim 1 does not recite a specific chemical which creates heat through an exothermic reaction when contacted with water nor does claim 1 recite water. Additionally, paragraph 29 of Pieroni teaches that the cleaning composition impregnated in the scrubbing surface can be a solid. Paragraph 45 teaches the chemical heating element impregnated in the scrubbing surface. Based on these two recitations, the non-electrical heating element can be a chemical impregnated in the scrubbing surface which is in the form for a solid.

12. Applicant argues that Pieroni fails to teach recovery of soiled cleaning solution from the surface since Pieroni teaches cleaning hard surfaces such as dishes, and one skilled in the art would normally wash away the soiled cleaning solution, rather than recover it. Applicant's arguments are unpersuasive since Pieroni also teaches cleaning flooring and it is well known and conventional in the art to recover cleaning solution for reuse, as evidenced by Kasper et al. (6131237).

13. Applicant argues that there is no teaching of a solid chemical heating element. Applicant's arguments are unpersuasive. Paragraph 29 of Pieroni teaches that the cleaning composition impregnated in the scrubbing surface can be a solid. Paragraph 45 teaches the chemical heating element impregnated in the scrubbing surface. Based on these two recitations, the non-electrical heating element can be a chemical impregnated in the scrubbing surface which is in the form for a solid.

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14. Applicant argues that Pieroni fails to teach a phase change from one solid phase to another. Applicant's arguments are unpersuasive in view of the indefiniteness as described above. Pieroni teaches a solid phase chemical element which when combined with water, produces a liquid cleaning solution that is scrubbed on the substrate surface.

In reference to claims 24 and 28, Pieroni teaches transferring the heat directly to the cleaning solution as a result of the chemical reacting with water and transferring the heat indirectly to the cleaning solution as result of heating the scrubbing element which contacts the cleaning solution. Additionally, Pieroni teaches heating the scrubbing surface to a temperature of about 35-50 degrees C (paragraph 45). The heating of the scrubbing surface also heats the cleaning solution since the cleaning solution is contacting the scrubbing surface.

15. Applicant argues that there is no reason to combine the teachings of Pieroni with Pace because a) Pace teaches a different process (i.e. cleaning fabrics), b) the disclosures are mutually exclusive, and c) there is no suggestion to combine.

Applicant's arguments are unpersuasive since both references are directed to enhancing cleaning performance by producing an exothermic reaction. The secondary reference of Pace is relied upon to teach that it is conventional in the art to generate exothermic reactions based on acid/base reactions. It would have been well within the level of the skilled artisan to modify the chemicals used in the method of Pieroni, to include acid/base reagents, as taught by Pace, for purposes of generating an

exothermic reaction. Pace is relied upon to teach common and conventional reagents used to produce an exothermic reaction.

16. Applicant argues that there is no suggestion to combine the teachings of Pieroni with Sham because there is no suggestion to recover the soiled cleaning solution of Pieroni since Pieroni cleans dishes. Applicant's arguments are unpersuasive since both references teach cleaning flooring and it is well known and conventional in the art to recover cleaning solutions for reuse as evidenced by Kasper et al. (6131237).

17. This application contains claims 30-58 drawn to an invention nonelected with traverse in Paper filed 3/28/2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on Monday-Friday, 6:00a.m-2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sharidan Carrillo  
Primary Examiner  
Art Unit 1746



SHARIDAN CARRILLO  
PRIMARY EXAMINER